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State of Utah
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DIVISION OF WATER QUALITY
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March 26, 2009

Stephen Schultz
P.O. Box 96
La Sal, UT 84530-0096

Subject: Division of Water Quality Responses to Your Written Comments Regarding Proposed Ground Water Discharge Permit UGW370007 for the Energy Queen Uranium Mine

Dear Mr. Schultz:

The Division of Water Quality (DWQ) received your comments via facsimile on March 11, 2009 regarding proposed Ground Water Discharge Permit UGW370007 for the Energy Fuels Resources Corporation (EFRC) Energy Queen Uranium Mine. We appreciate your concerns and would like to address your comments as they appeared in your letter. Your comments are indicated in italics below and are followed by our response.

Comment 1: *This mine has been dormant for more than 20 years. The water in the mine is contaminated. The simple fact of bringing contaminated water to the surface will increase the health risk to the local population.*

DWQ Response: The purpose of the Ground Water Discharge Permit is to protect ground water beneficial uses by applying best available technology (BAT) to new facilities and discharge minimization technology (DMT) to existing facilities to minimize discharge of pollutants, and verify the effectiveness of the BAT and DMT by ground water quality compliance monitoring. Mine water will be stored in a one-acre no-discharge pond prior to treatment. Although there will be some evaporation, the pond is designed as a no-discharge facility with two 60-mil high density polyethylene (HDPE) synthetic liners with a leak detection layer between them, and a leak collection system to contain any leakage through the primary (upper) HDPE liner. If any water leaks through the primary (upper) HDPE liner, the leakage will be routed to a leak collection sump and pumped back into the pond, hence a no-discharge facility.

DWQ does not regulate mine worker health and safety, radiation exposure, or air monitoring. However, EFRC has indicated that the following protective measures would be implemented to proactively prevent risks to human health that may be caused by the mining operation.

- The mine would operate in accordance with federal regulations that are designed to protect the mine workers and the general public from radiation exposure.

- The miners would be protected through establishment of adequate ventilation and monitoring of radiation levels in the underground work areas in accordance with Mine Safety and Health Administration (MSHA) regulations.

- The general public would be protected by monitoring of radiation emissions from the mine using methods approved by the U.S. Environmental Protection Agency (EPA) and adhering to ore transportation regulations established by the U.S. Department of Transportation.

- The air emissions would be measured for radon levels and flow rates in accordance with EPA regulations. These data would then be input into an EPA air modeling program to predict radiation levels at the nearest residence.

- Ore haul trucks would be tarped and checked for radiation levels prior to leaving the mine site and the mill site on the return leg. If gamma readings are found to be elevated, the ore truck would be cleaned using a power wash or other method to meet appropriate radiation standards.

- All scrap metal and other recyclables would be checked with a gamma meter prior to leaving the mine site. If the gamma readings are found to be elevated, the material would be cleaned using a power wash or other method to meet appropriate radiation standards.

Comment 2: *The mine location is problematic. It is less than ½ mile west from residential homes and about 1 mile west of the main town sight* [sic] *of La Sal, Utah.*

DWQ Response: DWQ does not regulate land use. Most counties have planning and zoning boards that can determine what uses can be developed on the land. Please contact the San Juan County Planner at (435) 587-3223 or at the county web page at sanjuancountyutah.org.

The mine is located in the La Sal Mining District on private property held by a surface lease with Markle Ranch Holding, LLC and a mineral lease with Superior Uranium Inc. for a 20-year term, which can be extended. The area was leased from the 1970s through 1997 by the Hecla Mining Company in a joint venture with Umetco Minerals Corporation (Union Carbide) and its successor, International Uranium Corporation. Drilling in the late 1970s discovered large uranium and vanadium deposits, which were developed by vertical shafts (Beaver Shaft and Hecla Shaft). Development drifting and minor production were in progress through 1980. Historic drilling indicates remaining resources of 475,000 pounds of uranium (0.32% U_3O_8) and 1.8 million pounds of vanadium (V_2O_5). The mine was started in 1979 by the Union Carbide-Hecla Joint Venture and operated until 1983 when the mine stopped production due to inadequate uranium prices. The mine was in standby mode until 1993 waiting for uranium prices to rise.

Comment 3: *La Sal has strong prevailing winds from the west. During the late winter, spring, and early summer months, winds can average 15 to 25 mph daily. Dried contaminated soil or residue (brought up through the water discharge permit you are considering to grant) can blow directly east into the town sight* [sic] *of La Sal endangering our health. The community of La Sal is directly down wind of this operation in a very windy area. The permit you are considering may create an unsafe / unimaginable situation.*

DWQ Response: Mine water will be pumped into a no-discharge pond prior to treatment. Any solids in the mine water will settle to the bottom of the pond and will not be blown by the wind. As indicated in our response to Comment 1, the mine would operate in accordance with federal regulations that are designed to protect the mine workers and the general public from radiation exposure. Mining operations are regulated by the Utah Division of Oil, Gas and Mining (DOGM). The administrative rules for Large Mining Operations (UAC Rule 647-4-107.1) states: "The mining operator shall minimize hazards to the public safety and welfare during operations." For more information on regulation of mining operations, please contact Paul Baker, DOGM Minerals Program Manager at (801) 538-5261.

Comment 4: *Admittedly, mining practices have advanced significantly since the first Uranium boom in the 1950's. What was then "standard industry practice" for the uranium industry is now generally proven itself to be detrimental to public health and damaging to the environment. The Current BAT (Best Available Technology) implies that "we are using the best technology we have right now to manage this contaminated water". History has proven the previous practices (thought to be safe at that time) to be totally inadequate. Will the current BAT absolutely guarantee future public health and safety? If so, who is responsible party?*

DWQ Response: The purpose of the Ground Water Discharge Permit is to protect ground water beneficial uses by applying best available technology (BAT) for new facilities and discharge minimization technology (DMT) for existing facilities to minimize discharge of pollutants from the mine dewatering operation, and to verify the effectiveness of the BAT and DMT by ground water quality compliance monitoring. Under UAC R317-6-1.3 of the Administrative Rules for Ground Water Quality Protection, "Best Available Technology means the application of design, equipment, work practice, operation standard or combination thereof at a facility to effect the maximum reduction of a pollutant achievable by available processes and methods taking into account energy, public health, environmental and economic impacts and other costs." As explained in the permit Statement of Basis, the mine water pond is designed as a no-discharge facility that will be constructed with two 60-mil high density polyethylene (HDPE) synthetic liners with a leak detection layer between them, and a leak collection system to contain any leakage through the primary (upper) HDPE liner. If any water leaks through the primary (upper) HDPE liner, the leakage will be routed by the secondary (lower) HDPE liner to a leak collection sump, where it will be pumped back into the pond. The following BAT performance standards will be monitored to verify the effectiveness of the BAT liner system:

- Minimum Vertical Freeboard - At least 24 inches of vertical freeboard (the distance between the top of the pond liner and the pond water level) will be maintained to ensure total containment of untreated mine water.

- Maximum Allowable Leakage Rate - Utah has adopted an allowable leakage rate of 200 gallons per acre per day established by EPA's Action Leakage Rates for Leak Detection Systems (EPA, January 1992). Based on a one-acre pond area, the maximum allowable leakage rate through the primary (upper) HDPE liner is 200 gallons/day. All fluids collected in the leak detection sump will be pumped back into the pond, hence a no-discharge pond.
- Maximum Allowable Head - The maximum allowable head (water column) in the leak detection collection sump will be one (1) foot. All fluids collected in the leak detection sump shall be pumped back into the pond so that the maximum fluid level within the sump remains below one (1) foot.

The water treatment plant will be constructed on a concrete pad with a concrete curb to contain any leaks or spills. The concrete filter pad will also be curbed and sloped so that all fluids draining from the geosynthetic filter bags will discharge directly into the pond. Water treatment operators will check and record reagent levels daily and refill the tanks on a regular schedule. An automatic shutoff will be installed on each reagent tank to shut off the water feed pump if reagent levels drop below 5% of the tank volume.

Potential impacts to ground water have been minimized by employing best available technology for the Untreated Water Pond, Treatment Plant, and Filter pad, and discharge minimization technology for the Contingency Pond. DWQ will provide periodic onsite inspections during construction and operation of these facilities. The BAT performance monitoring plan, which the permittee is required to submit to the Executive Secretary for approval prior to dewatering operations, will ensure that the facility is operated in accordance with design specifications and will also ensure that any early indications of facility problems will be detected early and resolved.

The leak detection system is the primary point of compliance for the Untreated Water Pond, and as long as the BAT performance standards are being met, the permittee is compliant with the permit. Ground water compliance monitoring will be also conducted as a back-up to the leak detection system. Ground water quality compliance for the mine water pond will be accomplished using primary compliance monitoring wells HMW-1, HMW-2, HMW-3, HMW-4, and HMW-5 and well-specific ground water protection levels established in accordance with UAC R317-6-4. If primary compliance monitoring well data indicate an exceedance of ground water protection levels, the accelerated sampling and source assessment procedures will be followed as stipulated in Part I.F, of the permit. Secondary compliance monitoring wells MW-1, MW-2, MW-3, and MW-4 will be utilized when Out-of-Compliance Status has been determined for any of the primary wells in accordance with Part I.F.2 of the permit.

The permit will require quarterly compliance monitoring reports be submitted to DWQ with the results of best available technology performance monitoring and ground water quality compliance monitoring. These monitoring requirements are explained in the permit Statement of Basis. An explanation of compliance monitoring and required out-of-compliance procedures is also provided at this DWQ website link: http://www.waterquality.utah.gov/GroundWater/gwCompliance.htm.

As indicated in our response to Comment 1, the mine would operate in accordance with federal regulations that are designed to protect the mine workers and the general public from radiation exposure. Mining operations are regulated by the Utah Division of Oil, Gas and Mining (DOGM). The administrative rules for Large Mining Operations (UAC Rule 647-4-107.1) states: "The mining operator shall minimize hazards to the public safety and welfare during operations." Under Rule R647-4 of the Utah Administrative Code, DOGM requires the mining company to submit for approval a Notice of Intention to Commence Large Mining Operations containing all the required information including:

- A topographic map showing property boundaries of surface ownership of all lands which are to be affected by the mining operations.

- Known areas which have been previously impacted by mining or exploration activities within the proposed disturbed area.

- Proposed surface facilities, including but not limited to buildings, stationary mining/processing equipment, roads, utilities, power lines, proposed drainage control structures, and, the location of topsoil storage areas, tailings or processed waste facilities, disposal areas for overburden, solid and liquid wastes and wastewater discharge treatment and containment facilities.

- A border clearly outlining the acreage proposed to be disturbed by mining operations.

- Plans, profiles and cross sections of roads, pads or other earthen structures to be left as part of the post-mining land use.

- Maps identifying surface areas which will be disturbed by the operator but will not be reclaimed, such as solid rock slopes, cuts, roads, or sites of buildings or surface facilities to be left as part of the post-mining land use.

- Baseline information maps and drawings including soils, vegetation, watershed(s), geologic formations and structure, contour and other such maps which may be required for determination of existing conditions, operations, reclamation and post-mining land use.

- A reclamation activities and treatment map to identify the location and the extent of the reclamation work to be accomplished by the operator upon cessation of mining operations. This drawing shall be utilized to determine adequate bonding and reclamation practices for the site.

EFRC is the responsible party and is required to submit a Reclamation Plan and Reclamation Surety to DOGM for approval prior to the commencement of operations. For more information about bonding and reclamation, please contact Paul Baker, DOGM Minerals Program Manager at (801) 538-5261.

Comment 5: *I understand that there are regulations and monitoring wells in place. If monitoring wells are found to be contaminated how will the public and local inhabitance* [sic] *be informed? In case of an accident, who will be liable for future health issues? Who will be liable for newly contaminated ground water? How would local property owners be informed? Who and how would be compensated? Please understand, all these things have happened before and the local public is typically NOT informed. If a person has great amount of time, a great deal of education, and considerable patience, information can be obtained. Much of the information is buried (seemingly intentionally) in mounds of technical date* [sic] *with geological and scientific terms. Without an expert as a consultant, little of this information is meaningful to the average person. Should not the State who is granting this permit be looking out for us? Who is acting as the advocate for the local population?*

DWQ Response: Under the Utah Water Quality Act, DWQ is charged with protecting the quality of Utah's surface and ground water for appropriate beneficial uses, and protecting public health from improper disposal of human, animal, or industrial wastes while giving reasonable consideration to the economic impact. The purpose of the Ground Water Discharge Permit is to protect ground water beneficial uses by requiring the application of best available technology (BAT) for new facilities and discharge minimization technology (DMT) for existing facilities to minimize discharge of pollutants, and verify the effectiveness of the BAT and DMT by ground water quality compliance monitoring. The permit will require quarterly BAT performance monitoring reports and quarterly ground water quality compliance monitoring reports be submitted to DWQ for review. These monitoring requirements are explained in the permit Statement of Basis at http://www.waterquality.utah.gov/PublicNotices/index.htm. An explanation of compliance monitoring and required out-of-compliance procedures is provided at the following DWQ website address: http://www.waterquality.utah.gov/GroundWater/gwCompliance.htm.

Comment 6: *We have an abundance of wild life in the La Sal area. On Monday March 02, 2009 I personally observed two (2) Bald Eagles (yes, Bald Eagles) fly directly above the Energy Queen Mine. These birds are being seen more often and are attracted to water. There is also a large population of Golden Eagles, Deer, Elk, and other wild life. What mitigation procedures will be in place to keep the wild life out of the 1.5 million gallon contaminated and untreated water pond? I did not see this addressed in the documentation.*

DWQ Response: According to EFRC, the ponds will be enclosed with 6-foot high chain link fencing to prevent access to the pond by domestic animals such as cattle, and wildlife such as deer and elk. The Division of Oil, Gas and Mining (DOGM) in the Department of Natural Resources and its sister agency, the Division of Wildlife Resources, may have some viable options for trying to prevent eagles and other birds from flying in and drinking the pond water. Please contact Paul Baker, Minerals Program Manager in DOGM at (801) 538-5261 for more information.

Comment 7: *The existing mine and proposed tailings ponds will be along the main access road (Utah highway 46) to the town sight* [sic] *of La Sal. I have invested a significant amount of money into local real estate. I understand that there are no guaranties but...The mine has been dormant for many years and real estate prices in La Sal (as well as taxes) have made solid gains. The property values may, (and probably will) be adversely affected. Obvious tailings pond full of*

contaminated water visible from the main highway will be a huge detriment to property values. The ponds will be in close proximity to the highway and the town sight [sic] *of La Sal. The overflow from the Moab Real Estate market will be reluctant to purchase property near a "Hot" and "Working" uranium mine. Visual impacts should be minimized. This was not even considered of* [sic] *mentioned. This was not addressed in any way.*

DWQ Response: As a point of clarification, the no-discharge pond will contain ground water extracted from the flooded underground mine workings, not tailings. DWQ does not regulate local planning and zoning issues such as visual impacts. This comment should be addressed to San Juan County officials. Please contact the San Juan County Planner at (435) 587-3223 or at the county web page at sanjuancountyutah.org.

Comment 8: *San Juan County, Utah is "peppered" with numerous abandon* [sic] *uranium mines. Many of these are: open, toxic, dangerous, unreclaimed, and apparently unmanaged. Why are we opening up this operation within shouting range of a local community and putting everybody at risk? Although procedures have changed, the uranium mining industry has a very poor history of environmental responsibility.*

DWQ Response: DWQ does not regulate active or abandoned mining operations. For information about active uranium mining operations, contact Paul Baker, DOGM Minerals Program Manager at (801) 538-5261. For abandoned mines, please contact Luci Malin, DOGM Abandoned Mines Program Manager at (801) 538-5323.

Comment 9: *We are currently in the process of cleaning up other environmental catastrophes associated with uranium tailings ponds in the local area. The Rio Algom Mine and Moab Mill tailings ponds come to mind. Other toxic tailings ponds in Utah, lie dormant and seemingly unmanaged? With years of reclamation work already performed and much more work pending, with millions of dollars spent, we still have contaminated ground water. It is very clear that past BAT has failed. So are to trust our community and our health with the new one? Why should the Division of Water Quality / Utah Department of Environmental Quality permit any other operations with such a history of failures?*

DWQ Response: Energy Queen is a uranium mine, not a uranium mill. No uranium ore will be milled or processed, and no uranium mill tailings will be generated at the Energy Queen Mine. Uranium mills and tailings facilities, including the Rio Algom and Moab Mill tailings sites, are regulated by the Division of Radiation Control. For information about these sites, please contact Loren Morton, DRC Geotechnical Program Manager at (801) 536-4162.

Comment 10: *Heavy equipment and pumps moving the water can be loud. Sound caries* [sic] *very far in this rarified air. Are sound mitigation procedures in place? Will we be hearing a constant rattle and hum from the west? Has this fact been considered?*

DWQ Response: DWQ does not regulate local planning and zoning issues such as noise. This comment should be addressed to San Juan County officials. Please contact the San Juan County Planner at (435) 587-3223 or at the county web page at sanjuancountyutah.org.

Comment 11: *I understand that boom / bust cycles that have pledged* [sic] *mining industry. Prices crash, investors pull out, companies go bankrupted* [sic]. *Some mining properties are sold, others abandoned. Giving Energy Fuels Resources Corporation the benefit of the doubt and assuming these operators have the "best of intentions" still leaves us with a very poor legacy and little historical reassurance that the operation will be cleaned up and managed after the next price crash.*

DWQ Response: Under Rule R647-4 of the Utah Administrative Code, DOGM requires the mining company to submit for approval a Notice of Intention to Commence Large Mining Operations containing all the required information including:

- A topographic map showing property boundaries of surface ownership of all lands which are to be affected by the mining operations.
- Known areas which have been previously impacted by mining or exploration activities within the proposed disturbed area.
- Proposed surface facilities, including but not limited to buildings, stationary mining/processing equipment, roads, utilities, power lines, proposed drainage control structures, and, the location of topsoil storage areas, tailings or processed waste facilities, disposal areas for overburden, solid and liquid wastes and wastewater discharge treatment and containment facilities.
- A border clearly outlining the acreage proposed to be disturbed by mining operations.
- Plans, profiles and cross sections of roads, pads or other earthen structures to be left as part of the post-mining land use.
- Maps identifying surface areas which will be disturbed by the operator but will not be reclaimed, such as solid rock slopes, cuts, roads, or sites of buildings or surface facilities to be left as part of the post-mining land use.
- Baseline information maps and drawings including soils, vegetation, watershed(s), geologic formations and structure, contour and other such maps which may be required for determination of existing conditions, operations, reclamation and post-mining land use.
- A reclamation activities and treatment map to identify the location and the extent of the reclamation work to be accomplished by the operator upon cessation of mining operations. This drawing shall be utilized to determine adequate bonding and reclamation practices for the site.

In addition, EFRC is required to submit a Reclamation Plan and Reclamation Surety to DOGM for approval prior to the commencement of operations. For more information about bonding and reclamation, please contact Paul Baker, DOGM Minerals Program Manager at (801) 538-5261.

Comment 12: *If there is any doubt, one needs to look at the recent Lisbon Valley Copper mine. In 2008 Copper prices were at an all time high but the mine shut down. I am told it was due to "poor management". There is a huge mess in Lisbon valley associated with this operation and I see no active reclamation work. Are the bonds and the funds available to clean that mess up completely? This is not 1950 but 2008, just last year! Again the State approved and permitted this operation. I have a feeling that we will see this rusted, toxic, eye sore untouched for the next 20 years.*

DWQ Response: Please refer to the response to Comment 11 above regarding Comment 12.

Concluding Comments

Conclusion

I am commenting as a private citizen. I am not against mining or natural resource development in San Jun [sic] *County or Utah as a whole. We do need jobs and opportunities for this and other communities but I am very concerned about this operation.*

This mine is not isolated but front and center in our day to day lives. Most residents will drive by this mine every day. Any problems from the contaminated water will immediately affect the entire town. We need to consider this fact and look closely at this operation!

We have not seen active uranium mining for many years. This industry has a very poor history of environmental stewardship. There is contaminated water in test wells on private land adjacent to Rio Algom just south of town. Our lives are here. Our houses, our children, our animals, our pets, are all here. We do not wish to sacrifice our health for another boom / bust operation. We have all experienced the extraction industries "rape, ruin and run" for many years. We are always left to deal with the aftermath.

Think it is hype? A person just has to drive around the area and look at the numerous abandoned, dangerous, toxic, polluted, open, rusted, broken down, contaminated, caved in, dilapidated, unreclaimed uranium mines. We are to believe this operation will be totally different? Do they not own some of these properties?

The State takes no action on these old toxic hazardous mines. They apparently ignore our health and environmental concerns. We are treated like the "Third World" Of Utah. This would not happen up state! Now we are asked to approve a new operation pumping known contaminated, toxic water to the surface close to town and store it in ponds a mile up wind of our houses?

I am told the definition of insanity is repeating the same behavior many times over and expecting a different out come. With this definition in mind, the proposal is truly ludicrous! If your children lived here would you approve of it? If the state wants to create jobs why not reclaim some of the abandoned mines first before opening up another potential hazard? I totally disapprove of this permit request and ask for a public meeting with the people of La Sal, Utah.

DWQ Response: The concerns presented in your concluding comments above have already been addressed in our responses to your previous comments. We received written comments from two other La Sal residents and one Moab resident during the 30-day public comment period: Based on a review of the comments, DWQ will hold a public meeting on April 6, 2009 at 6:30 P.M. in the La Sal Community Center. Representatives from DWQ, DOGM, and EFRC will be available to answer questions about the proposed ground water discharge permit and the mining operation.

I hope I have adequately addressed your concerns related to the proposed Ground Water Discharge Permit. If you have any additional questions, please contact me at rherbert@utah.gov or (801) 538-6038.

Sincerely,

Robert L. Herbert

Rob Herbert, P.G., Manager
Ground Water Protection Section

Cc: Paul Baker, DOGM Minerals Program